INDEXES

Subject Index to Volume 8

A

Acetylcholine, cholinergic excitation, smooth muscle, 207
Acetylcholinesterase, neural development and, 266
Acidification
  urinary, reductionist approach (Perspectives), 282
  vacuolar, mechanism and function of, 24
Acinar cells, exocrine, calcium ion signaling aspects in, 103
Afferent nerves, visceral, inhibition and facilitation of (Notes), 287
Aging (Notes), 185
Aldosterone, membrane receptors for, 241
Alveoli, surfactant lining, negative-feedback control, 12
ANF: see Atrial natriuretic factor
Angiotensin II
  enhancement, lipid peroxidation, 245
  receptors: see Receptors
Anions, epithelial secretion driven by, 91
Antagonistic control, interactions (Notes), 96
Arterial chemoreceptor cells, electrophysiology of, oxygen sensing and, 191
Atrial natriuretic factor
  central cardiovascular control, 223
  hypertension, 161
Atrial natriuretic peptides, secretion, regulation of, 261
Auditory physiology (News From IUPS), 53
Autonomic responses, light and (Notes), 142
Autoregulation, intracavitary, cardiac performance, 82

B

Behavioral responses, stress, biological basis of, 69
Blood flow, cerebral, innervation in, 149
Blood-gas barrier, pulmonary, 249
Brain
  electrical activity, oscillations in, 111
  functions, magnetoencephalography, 213

C

Calcium channels, peptide release and, neurosecretory terminals, 64
Calcium ions
  intracellular, release, control of, 55
  switch, modulation of, 1
Calcium ion signaling, spatiotemporal aspects, exocrine acinar cells, 103
Carbohydrates, complex, cell-specific synthesis, 57
Cardiopulmonary resuscitation, priority (Notes), 185
Catecholamines, surge at birth (Notes), 142
CCK: see Cholecystokinin
Central nervous system, cardiovascular control, ANF in, 223
Chloride, epithelial secretion driven by, 91
Cholecystokinin, gastrin and, 101
Cystic fibrosis, molecular physiology of, 117

D

Development
  neural, acetylcholinesterase and, 266
  vertebrate, locomotor movements during, 107

E

Economic policy, science, United Kingdom, 136
Editorials, 99
Endothelium, dysfunction, shock states, 145
Endotherms, cold-blooded hot heads (Notes), 185
Energy, conservation, sleep and, 276
Epithelial cells, mechanoreceptors, intracellular calcium release, 55
Evolution, physiology and (Notes), 141
Exercise
  locomotor movements, during vertebrate development, 107
  practical calculation for (Notes), 287

F

Feedback, tubuloglomerular, role in chronic partial ureteral obstruction, 74
Freeze tolerance (Notes), 142

G

Gastrin, CCK and, 101
Genetic diseases, subtle changes, sodium channelopathies, 38
Glycolysis, metabolic organization, 219
Glycosyltransferases, expression and topogenesis of, cell-specific synthesis, 57
G proteins
  modulation of calcium ion switch, 1
  regulation, phospholipase A activity, 61

H

Heart
  congestive failure, baroreflex abnormalities, 87
  loads, comparison (rat, guinea pig), 157
  performance, endocardial and coronary endothelial control of, 82
Hematopoietic growth factors, prevention of programmed death, 170
Hydrogen-ATPase, vacuolar, acidification, 24
Hypertension, atrial natriuretic factor in, 161
Hypometabolism, hypoxic, mammals, 79
Hypothalamic, oxytocin neurons, synchronisation of bursting in, 129
Hypoxia, hypometabolism, mammals, 79

I

Intestine, nonadrenergic noncholinergic inhibitory transmitters in, 195
Ion channels
  formation, protein with single transmembrane domain, 175
  voltage-sensitive, genetic diseases, 38
Iron, melanin interaction, Parkinson's disease, 45
Itching (Notes), 96

J

Junction, epithelial tight, functions of, 101

K

Krebs cycle, glycolysis revisited, 219

L

Light, responses (Notes), 142
Lipids, peroxidation, angiotensin II enhancement of, 245
Lipoprotein, low-density, lipid peroxidation of, angiotensin II effects, 245
Locomotion, during vertebrate development, 107
Lumen, arterial, controlled by flow-related shear stress, 34
Lung, blood-gas barrier, 249

M

Magnetoencephalography, 213
Melanin, iron interaction, Parkinson's disease, 45
Melatonin, pineal gland, synchronizing physiological events, 30
Mineralocorticoids, nongenomic action, 241
Models, nonstochastic string, sympathetic neuromuscular transmission, 253
Molecular biology, 236
  integrative physiology relations (Perspectives), 233
Muscle
  respiratory, interaction, 121
  vertebrate (Notes), 96
Muscle, skeletal, adaptation, molecular and cellular approaches to, 165
Muscle, smooth, cholinergic excitation, 207
Muscle fibers, molecular diversity of, mammalian, 153
Myocardium, physics (Letter), 238

N

Neovascularization, vascular endothelial growth factor in, 144
Neuroendocrine function, serotonergic neurons and, 202
Neurons
  action potential in, 42
  hypothalamic oxytocin, synchronisation of bursting in, 129
  serotonergic, neuroendocrine function and, 202
  thalamic and neocortical, oscillations in, 111
Neurosecretory terminals, calcium channels, peptide release and, 64
Neurotransmitters
  actions, melatonin regulation of, pineal gland, 30
  release, regulation of, phosphoproteins and, 18
Nonadrenergic noncholinergic inhibitory transmitters, intestine, 195
Nutrients, balance, body weight regulation and, 273

O

Osmorespiratory compromise (Notes), 96
Oxygen
  sensing, electrophysiology of arterial chemoreceptor cells, 191
  sensor, 143

P

Parkinson's disease, iron-melanin interaction, 45
Peptides, release, neurosecretory terminals, 64
Phosphatase
  modulation of calcium ion switch, 2
  phosphotyrosine protein, signal transduction, 3
Phospholipase A, activity, regulation by G proteins, 61
Phosphoproteins, regulation of synapsins and synaptic transmission, 18
Physiology (Perspectives), 94
Pineal gland, synchronizing physiological events, 30
Potassium channels, intimacies of, 1
Potentials, action, neurons, 42
Pressure, vein wall response to, 124
Progenitor cells, hematopoietic, programmed death in, prevention, 170
Prostaglandins, substance P and, renorenal reflexes, 228
Protein, single transmembrane domain, 175

R

Receptors
  angiotensin II subtypes, molecular insights, 215
  common, gastrin and CCK, 101

mechanoreceptors
epithelial cells, intracellular calcium release, 55
teeth, 287
membrane, for aldosterone, 241
Reductionist approach, urinary acidification (Perspectives), 282
Reflexes
baroreflexes
abnormalities, congestive heart failure, 87
testing of, 7
renorenal, substance P and prostaglandins in, 228
Respiration, respiratory muscle interactions, 121
Rhythms, brain, oscillations, 111

S

Shock, endothelial dysfunction in, 145
Signal transduction, control of, phosphotyrosine protein phosphatase in, 3
Sleep
death of each day's life (Notes), 237
energy conservation and, 276
Sodium channelopathies, subtle genetic changes, 38
Sodium channels, apical, regulation, tight epithelia, 189
Species differences, heart, functional loads (rat, guinea pig), 157
Stress
response, biological basis of, 69
shear, flow-related, arterial lumen controlled by, 34
Substance P, prostaglandins and, renorenal reflexes, 228
Surface tension law (Perspectives), 179
Surfactants, alveolar, turnover, 12
Sympathetic nerve, varicosities, 199
Sympathetic neuromuscular transmission, nonstochastic string model, 253
Synapsins, phosphoproteins in, 18
Synaptic transmission, controversy (Perspectives), 135

T

Temperature, sex and (Notes), 96

U

Ureter, chronic partial obstruction, role of tubuloglomerular feedback in, 74

V

Varicosities, sympathetic nerve, 199
Vascular endothelial growth factor, 144
Vascular tone, flow-related shear stress and, 34
Vein wall, response to pressure, 124

W

Weight, body, regulation, 273

Author Index to Volume 8

Aviram, M.: see Keidar, S., 245

Bao, J.-X.: see Stjärne, L., 253
Belluzzi, O.: see Sacchi, O., 42
Benfenati, F. and Valtorta, F.: Synapsins and synaptic transmission, 18
Bennett, M. R. Quantal secretion at visualized sympathetic nerve varicosities, 199
Benos, D. J.: see Neill, J. D., 233
Benot, A. R.: see López-Barneo, J., 191
Ben-Shach, D.: see Youdim, M. B. H., 45
Berger, E. G. and Thurnher, M. Clues to the cell-specific synthesis of complex carbohydrates, 57
Berger, R. J. and Phillips, N. H. Sleep and energy conservation, 276
Bevan, J. A. and Bevan, R. D. Is innervation a prime regulator of cerebral blood flow?, 149
Bevan, R. D.: see Bevan, J. A., 149
Bondurant, M. C.: see Koury, M. J., 170
Booth, F. W. and Tseng, B. S. Olympic goal: molecular and cellular approaches to understanding muscle adaptation, 165
Brändle, M.: see Zucker, I. H., 87
Brook, J. G.: see Keidar, S., 245
Brownfield, M. S.: see Van de Kar, L. D., 202
Brutsaert, D. L. Endocardial and coronary endothelial control of cardiac performance, 82

Christ, M.: see Wehling, M., 241
Cook, D. I. and Young, J. A. Epithelial secretion driven by anions other than chloride, 91

Deckmyn, H., Van Geet, C., Vermylen, J. Dual regulation of phospholipase C activity by G proteins, 61
Decramer, M. Respiratory muscle interaction, 121
Dissing, S., Gromada, J. L., Jorgensen, N. K., Frokjaer-Jensen, J. and Nauntofte, B. Spatiotemporal aspects of Ca^{2+} signaling in exocrine acinar cells, 103

Ebadi, M., Samejima, M. and Pfieffer, R. F. Pineal gland in synchronizing and refining physiological events, 30
Eckberg, D. L. and Fritsch, J. M. How should human baroreflexes be tested?, 7
Eisen, C.: see Wehling, M., 241

Forgac, M.: see Myers, M., 24
Fritsch, J. M.: see Eckberg, D. L., 7
Frizzel, R. A. The molecular physiology of cystic fibrosis, 117
Frokjaer-Jensen, J.: see Dissing, S., 103

Garcia, R. Atrial natriuretic factor in experimental and human hypertension, 161
Gonon, F. C.: see Stjärne, L., 253
Goris, J.: see Van Hoof, C., 3
Grider, J. R.: see Makhlouf, G. M., 195
Gromada, J. L.: see Dissing, S., 103

Hari, R. Magnetoencephalography reveals functions of the human brain, 213
Harris, R. C.: see Inagami, T., 215
Henry, J. P. Biological basis of the stress response, 69
Hoffman, E. P. and Spier, S. J. Sodium channelopathies: dramatic diseases caused by subtle genetic changes, 38
Huxley, A. Editorial: A message of welcome from the President of IUPS, 99

Inagami, T. and Harris, R. C. Molecular insights into angiotensin II receptor subtypes, 215
Ingram, C. D.: see Wakerley, J. B., 129

Janssen, L. J.: see Sims, S. M., 207
Jequier, E. Body weight regulation in humans: the importance of nutrient balance, 273
Johnson, P. C.: see Smiesko, V., 34
Jorgensen, N. K.: see Dissing, S., 103

Kapelko, V. I. and Novikova, N. A. Comparison of functional load in rat and guinea pig hearts, 157
Keidar, S., Brook, J. G. and Aviram, M. Angiotensin II enhances lipid peroxidation of low-density lipoprotein, 245
Kopp, U. C. Renorenal reflexes: role of substance P and prostaglandins, 228
Koury, M. J. and Bondurant, M. C. Prevention of programmed death in hematopoietic progenitor cells by hematopoietic growth factors, 170
Kovách, A. G. B. and Lefer, A. M. Endothelial dysfunction in shock states, 145

Lefer, A. M.: see Kovách, A. G. B., 145
Lemos, J. R.: see Wang, X., 64
López-Barneo, J., Benot, A. R. and Urena, J. Oxygen sensing and the electrophysiology of arterial chemoreceptor cells, 191

Makhlouf, G. M. and Grider, J. R. Nonadrenergic noncholinergic inhibitory transmitters of the gut, 195
Mathieu-Costello, O.: see West, J. B., 249
Merlevede, W.: see Van Hoof, C., 3
Monos, E. How does the vein wall respond to pressure?, 124
Morris, J. and Noble, D. Science and economic policy in the United Kingdom, 135
Morsing, P. A role for tubuloglomerular feedback in chronic partial ureteral obstruction, 74
Mortola, J. P. Hypoxic hypometabolism in mammals, 79
Msghina, M.: see Stjärne, L., 253
Myers, M. and Forgac, M. Mechanism and function of vacuolar acidification, 24

Nauntofte, B.: see Dissing, S., 103
Neill, J. D. and Benos, D. J. Relationship of molecular biology to integrative physiology, 233
Nicholas, T. E. Control of turnover of alveolar surfactant, 12
Noble, D. Editorial: Welcome to Glasgow, 99
Noble, D.: see Morris, J., 135
Nordmann, J. J.: see Wang, X., 64
Novikova, N. A.: see Kapelko, V. I., 157

Oparil, S. and Wyss, J. M. Atrial natriuretic factor in central cardiovascular control, 223

Pagliaro, L. Glycolysis revisited—a funny thing happened on the way to the Krebs cycle, 219
Pette, D. and Staron, R. S. The molecular diversity of mammalian muscule fibers, 153
Pfieffer, R. F.: see Ebadi, M., 30
Pinter, G. G. and Pinter, V. Is physiology a dying discipline?, 94
Pinter, V.: see Pinter, G. G., 94

Regen, D. M. Letters to the editor: Myocardial physics, 238
Riederer, P.: see Youdim, M. B. H., 45
Robertson, R. T. and Yu, J. Acetylcholinesterase and neural development: new tricks for an old dog?, 266
Ruskoaho, H. and Vuolteenaho, O. Regulation of atrial natriuretic peptide secretion, 261

Sacchi, O. and Belluzzi, O. The action potential in mammalian neurons: new perspectives, 42

Samejima, M.: see Ebadi, M., 30
Sillar, K. T., Wedderburn, J. F. S., Woolston, A.-M., and Simmers, A. J. Control of locomotor movements during vertebrate development, 107
Simmers, A. J.: see Sillar, K. T., 107
Sims, S. M. and Janssen, L. J. Cholinergic excitation of smooth muscle, 207
Smiesko, V. and Johnson, P. C. The arterial lumen is controlled by flow-related shear stress, 34
Spier, S. J.: see Hoffman, E. P., 38
Staron, R. S.: see Pette, D., 153
Steinmetz, P. R. The reductionist approach to urinary acidification: scalar similarities, T1
Steriade, M. Oscillations in interacting thalamic and neocortical neurons, 111
Stjärne, E.: see Stjärne, L., 253
Stjärne, L., Bao, J.-X., Gonon, F. G., Msghina, M. and Stjärne, E. A nonstochastic string model of sympathetic neuromuscular transmission, 253

Takumi, T. A protein with a single transmembrane domain forms an ion channel, 175
Tenney, M. S. A tangled web: Young, Laplace, and the surface tension law, 179
Tenney, S. M. Notes, 51, 96, 141, 185, 236, 287
Thurnher, M.: see Berger, E. G., 57
Treistman, S. N.: see Wang, X., 64
Tseng, B. S.: see Booth, F. W., 165

Urena, J.: see López-Barneo, J., 191

Valtorta, F.: see Benfenati, F., 18
Van der Kar, L. D. and Brownfield, M. S. Serotonergic neurons and neuroendocrine function, 202
Van Geet, C.: see Deckmyn, H., 61
Van Hoof, C., Goris, J. and Merlevede, W. Phosphotyrosine protein phosphatases: master key enzymes in signal transduction, 3
Vermylen, J.: see Deckmyn, H., 61
Vuolteenaho, O.: see Ruskoaho, H., 261

Wakerley, J. B. and Ingram, C. D. Synchronisation of bursting in hypothalamic oxytocin neurones: possible coordinating mechanisms, 129
Wang, W.: see Zucker, I. H., 87
Wang, X., Treistman, S. N., Wilson, A., Nordmann, J. J. and Lemos, J. R. Ca^{2+} channels and peptide release from neurosecretory terminals, 64
Wedderburn, J. F. S.: see Sillar, K. T., 107
Wehling, M., Eisen, C. and Christ, M. Membrane receptors for aldosterone: a new concept of nongenomic mineralocorticoid action, 241
West, J. B. and Mathieu-Costello, O. Pulmonary blood-gas barrier: a physiological dilemma, 249
Whitteridge, D. The controversy over synaptic transmission, 135
Wilson, A.: see Wang, X., 64
Woolston, A.-M.: see Sillar, K. T., 107
Wyss, J. M.: see Oparil, S., 223

Youdim, M. B. H., Ben-Shach, D., Riederer, P. Iron-melanin interaction and Parkinson's disease, 45
Young, J. A.: see Cook, D. I., 91
Yu, J.: see Robertson, R. T., 266

Zucker, I. H., Wang, W., Brändle, M. Baroreflex abnormalities in congestive heart failure, 87